

NOTE

CALLERY PEAR (*PYRUS CALLERYANA*—ROSACEAE)
NATURALIZED IN NORTH CAROLINA

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The Callery pear is noted by Kartesz (1999) to occur in North Carolina, based on an undesignated specimen of *Pyrus calleryana* Decne. in the NCU herbarium. The specimen referred to by Kartesz (*Larke 1649*, cited below) was taken from a tree growing in a natural habitat in the North Carolina Botanical Garden, but there is a probability that it was planted there. The current report provides documentation for the North Carolina Botanical Garden specimen as well as a clear example of incipient naturalization of the same species in North Carolina.

VOUCHER SPECIMENS: NORTH CAROLINA: Orange Co., Chapel Hill, north side of Morgan Creek in North Carolina Botanical Garden, near spring in Hunt's garden area, Grid 14, Aspect F, pine-hardwood bottomland, 23 Sep 1990, *Larke 1649* (NCU)—identified on the label as "*Pyrus* sp. (F3 hybrid—Bradford × LeConte)"; Chapel Hill, Heritage Hills subdivision in southeast corner of county, numerous seedlings and saplings as volunteers in several yards along Concord Drive, apparently from fruits from a single, large, cultivated tree (apparently cv. "Aristocrat") at 106 Concord, 31 Oct 1999, *Nesom NC99-10-1* (BRIT, NCU, TEX, US, to be distributed).

Each of the vouchers of *Nesom NC99-10-1* consists of a fruiting branch of the parent tree and a full plant of one of the young, deeply taprooted progeny. Most of the young plants range 3–12 dm tall at about 1–4 years old; one of them is 2.2 m tall and may be older. Some of youngest individuals have lobed leaves, a feature not seen on mature trees. The parent tree, which was probably planted in the 1970s or early 1980s, judging from its size and the history of the neighborhood, is about 12 m tall and has a relatively loose, elongate-oblong crown with sharply upturned branches, compared to the tighter, nearly globose crowns of the shorter cultivars currently so commonly planted in urban landscapes.

Everett (1981) noted that “nearly all pears are self-sterile.” Zielinski (1965) observed that within the genus, “*Pyrus fauriei* appears to be unique in producing seeded fruits upon self-pollination. All other species studied are self-incompatible.” The abundant fruits on the parent tree in Orange County (NC99-10-1) presumably are from flowers outcrossed to a different clone (see Ackerman and Creech 1966), although it seems remarkable that there apparently are no other reproductive individuals of *P. calleryana* within a radius of 0.4 kilometers of this one. From the parent tree, 30 fruits ranged 11–27 mm in diameter and produced an average of 1.6 mature seeds per fruit (range 1–4). Haserodt and Sydnor (1983, p. 162) noted that “fruiting of this cultivar [cv. “Aristocrat,” as the tree is identified here] appears to be heavier than for other cultivars.” None of the progeny of NC99-10-1 observed here (as seedlings and saplings) have matured enough to become reproductive. All are growing within about a 40-meter radius of the parent tree. The parent tree also has produced numerous root sprouts within a 3-meter radius of its base—these are similar in morphology to the young, independent seedlings and saplings.

Russell (1999) also notes that *Pyrus calleryana* is “beginning to naturalize locally in North Carolina and the mid-Atlantic states.” By 1983, it was observed to be naturalized in Maryland “on a wide variety of sites around the U.S. Plant Introduction Station” in Glenn Dale (Santamour and McArdle 1983). Stewart (1999) has observed “tremendous numbers” of young wild trees of Callery pear in vacant lots along Route 450 in Bowie, Maryland, and along roadsides of the Capital Beltway around Washington, D.C. At one spot in Bowie, he counted “over one hundred trees in a stretch of neglected ground about 100 ft. long and 50 ft. wide. They were so thick that in places the individual young trees grew only a foot or two apart.” Stewart notes that “we seem to have a new horticultural plague on our hands in Maryland, a plague of pears.” The sources of these naturalized plants are urban landscapes in the United States, where “the tree is now approaching epidemic proportions” because of overplanting (Dirr 1990, p. 680; also see Anonymous 1986).

The Bradford pear was introduced in the eastern United States through plantings about 1950, although the name was not published until later (see Jacobson 1996). In the last 30 years, many other cultivars of *Pyrus calleryana* have been selected and widely

planted (Dirr 1990; Huxley et al. 1992; Jacobson 1996; Santamour and McArdle 1983)—although these apparently are all sometimes informally referred to as “Bradford,” technically they should be described by other cultivar names or else generally referred to as “Callery pear.” Trees of this species naturalizing in North Carolina and other areas of the southeastern United States apparently represent a range of different cultivars.

The original cultivar of *Pyrus calleryana*, the “Bradford pear,” was developed at the U.S. Plant Introduction Station in Glenn Dale, Maryland from seeds collected from northern China (Whitehouse et al. 1963). The native range of *P. calleryana* includes “11 provinces of eastern China, south of the 37th parallel,” where it grows in mixed forests on slopes and in swamps (Santamour and McArdle 1983). A closely related entity from Korea, *P. fauriei* Schneider, has sometimes been treated as a variety within *P. calleryana* but is distinct in a number of respects (Zielinski 1965). A naturally occurring hybrid between *P. calleryana* and *P. betulifolia* Bunge has been reported from Illinois (Wandell 1997).

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LITERATURE CITED

- ACKERMAN, W. L. AND J. L. CREECH. 1966. Long-term observation reveals self-unfruitful trait and other desirable characteristics of the Bradford pear. *Amer. Nurseryman* 124(1): 7–8, 51–53.
- ANONYMOUS. 1986. Is ‘Bradford’ pear overused in landscapes? *Amer. Nurseryman* 164(4): 9–10.
- DIRR, M. A. 1990. *Manual of Woody Landscape Plants: Their Identification, Ornamental Characteristics, Culture, Propagation and Uses*, 4th ed. Stipes Publ. Co., Champaign, IL.
- EVERETT, T. H. 1981. *The New York Botanical Garden Illustrated Encyclopedia of Horticulture*. Vol. 8, Par–Py. Garland Publ., Inc., New York.
- HASERODT, H. AND T. D. SYDNOR. 1983. Growth habits of five cultivars of *Pyrus calleryana*. *J. Arboricult.* 9: 160–163.
- HUXLEY, A., M. GRIFFITHS, AND M. LEVY, eds. 1992. *The New Royal Horticultural Society Dictionary of Gardening*. Vol. 3, L to Q. Stockton Press, New York.
- JACOBSON, A. L. 1996. *North American Landscape Trees*. Ten Speed Press, Berkeley, CA.

- KARTESZ, J. T. 1999. A Synonymized Checklist and Atlas with Biological Attributes for the Vascular Flora of the United States, Canada, and Greenland, 1st ed. *In*: J. T. Kartesz and C. A. Meacham. Synthesis of the North American Flora, Version 1.0. North Carolina Botanical Garden, Chapel Hill, NC.
- RUSSELL, A. B. 1999. Urban Tree Identification for North Carolina. North Carolina State University Consumer Horticulture, NC Cooperative Extension Service, Web Site (<http://www.ces.ncsu.edu/depts/hort/consumer/Landscape/Pyrusca.htm>).
- SANTAMOUR, F. S. JR. AND A. J. MCCARDLE. 1983. Checklist of cultivars of Callery pear (*Pyrus calleryana*). *J. Arboricult.* 9: 114–116.
- STEWART, B. 1999. The coming plague of pears. Univ. of Maryland Cooperative Extension Service Green Industry Web Site (<http://www.agnr.umd.edu/users/ipmnet/5-8art1.htm>).
- WANDELL, W. N. 1997. *Pyrus calleryana* × *betulifolia* tree named 'Edgewood.' United States patent plant. U.S. Patent and Trademark Office. Dec 16, 1997. (10,151) 2 p.
- WHITEHOUSE, W. E., J. L. CREECH, AND G. A. SEATON. 1963. Bradford ornamental pear—a promising shade tree. *Amer. Nurseryman* 177(8): 7–8, 56–60.
- ZIELINSKI, Q. B. 1965. Taxonomic status of *Pyrus Fauriei* Schneider (Rosaceae). *Baileya* 13: 17–19.